



# Active Noise Control Technical Issues

David C. Swanson

Advanced Sensors and Control Department

The Applied Research Laboratory

P.O. Box 30, State College, PA 16804-0030

(814) 865-2448, [dcs5@psu.edu](mailto:dcs5@psu.edu)



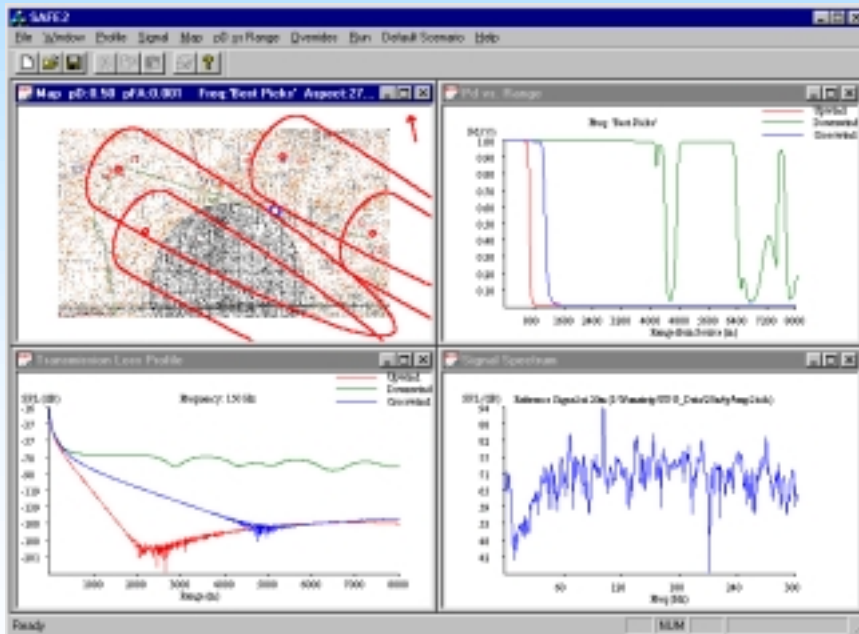
# ANC Technical Issues

- ANC Source Size, Power, Robustness
- ANC Unattended Operation
- Survivability Metrics for User
- Track Noise Suppression

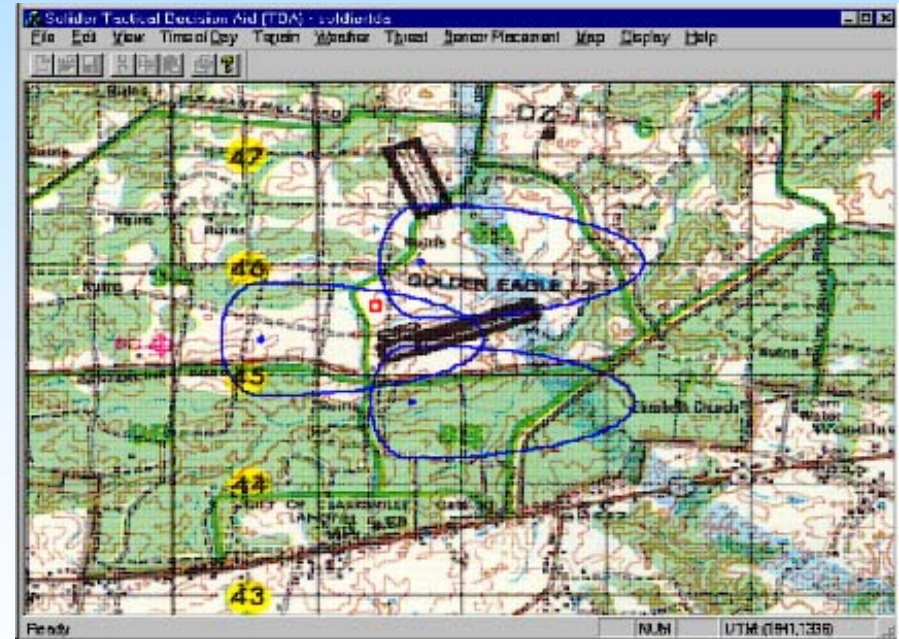
# ANC Survivability Metrics

Sound Propagation Modeling key to Detection Prediction

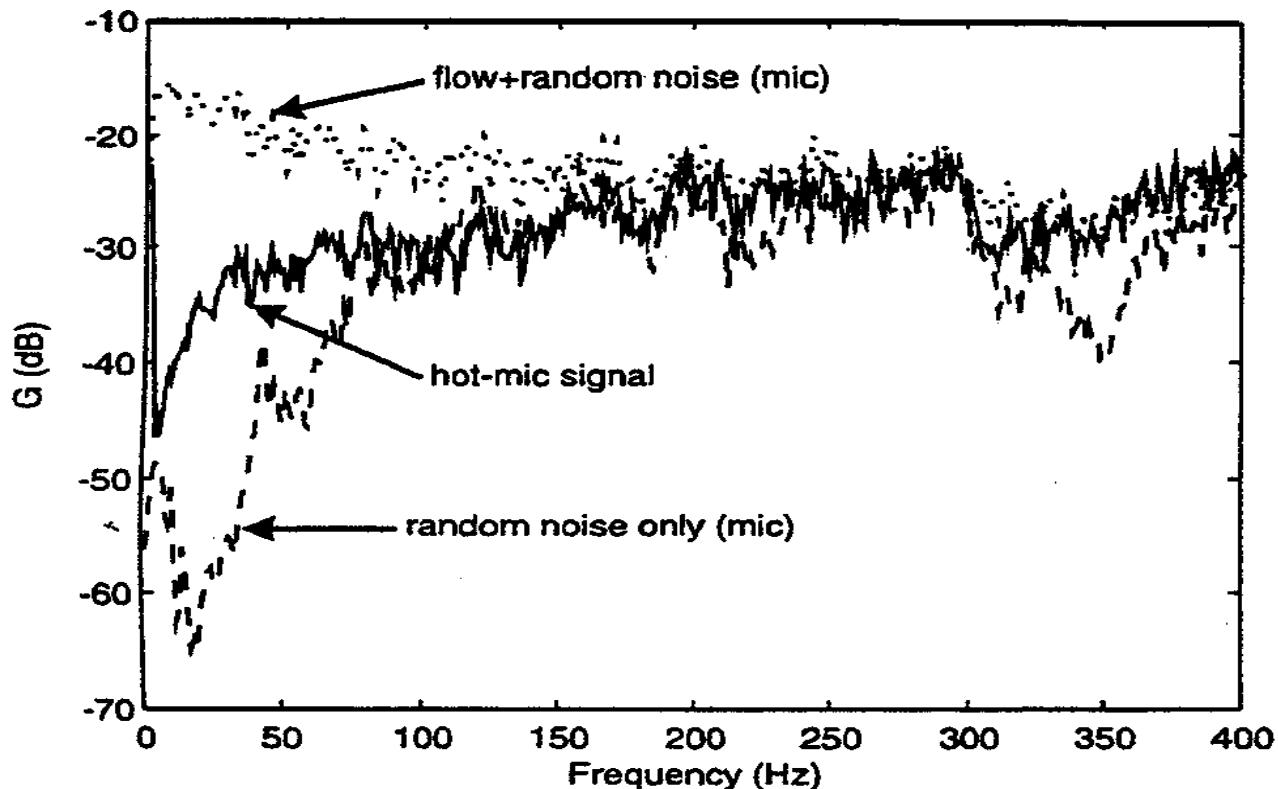
Scientific Analysis Tool



Tactical Decision Aid



# Wind Noise Canceling Microphones





# Wind Noise Cancellation Issues

- Requires Adaptive Filter - Flow Direction Dependent Noise Cancellation
- Microphone Non-Linearity in High Flow
- Requires Significant Additional Processing Relative to Standard Microphone
- Can Degrade Beamforming Array Coherence